



DEVOTION
COST ACTION CA18211
Perinatal Mental Health & Birth Related Trauma:
Maximising Best Practice & Optimal Outcomes



2nd Training School of Devotion: Perinatal Mental Health and Birth Related Trauma: Maximising Best Practice & Optimal Outcomes

Epigenetics as a lifelong record of the early-life environment Training School Schedule

28th February, 1st & 2nd March 2022

Catholic University of Croatia, Zagreb, Croatia

Ilica 242 (entrance from street “Domobranska”)

Main (old) building, 3rd floor, Room Bl. Aloysius card. Stepinac Hall

FOR ONLINE ATTENDANCE

*Please use the following Zoom Meeting:

THE LINK WAS DELETED HERE TO SHARE THIS DOCUMENT ONLINE.

REGISTERED PARTICIPANTS GOT A VERSION WITH LINK IN THEIR EMAILS.

*The same link will work for all three days. During the lectures, please turn off your microphone and video. The lectures will be recorded, so if you do not want your photo/video to be taken, please turn off your camera/remove your name. Screenshots and photos can be taken during the training school for the social media.

FOR ONSITE ATTENDANCE

*Free wi-fi will be available in the room. Passcodes will be provided at the site.

*For information about the location, please see the last page.



DEVOTION
COST ACTION CA18211
Perinatal Mental Health & Birth Related Trauma:
Maximising Best Practice & Optimal Outcomes



1. General Information

The main aim of Devotion COST Action CA18211 is to establish an EU funded multidisciplinary network of researchers dedicated to improve the understanding of perinatal health outcomes and reduce birth related trauma. The Network comprises researchers from 33 partner universities across Europe working towards the prevention, assessment, measurement and treatment of birth related trauma. <https://www.ca18211.eu/>

2. What are Training Schools?

Since COST's priority is enhancing research collaboration where ideas and people can grow without borders. Training Schools aim to facilitate capacity building on a topic relevant to the theme of the respective COST Action through the delivery of intensive training on a new emerging subject.

Training Schools Grants provide support for intensive training on a new or emerging subject for PhD students and Early Career Researchers (ECR) from participating Inclusiveness Target Countries' (ITC).

Training Schools aim to facilitate capacity building on a topic relevant to the theme of the respective COST Action through the delivery of intensive training on a new or emerging subject.

Participants will be expected to **attend and participate at the Training School during the three days**. All attendees will be given the opportunity to present and discuss their work, and to network with other ECR's, The Training School trainers, mentors and the members of the DEVOTION COST Action. The Training School will be held face to face with a hybrid component where some lectures will link in virtually. There are 15 funded places for participants to attend face to face. Additional places for participants will be made available remotely.

Materials: The meeting is taking place face to face but there will be a hybrid component where some speakers will link in remotely. It is advised to have a computer with a stable and fast internet connection. Additional free software may be needed, which will be communicated closer to the date of the Training School and some reading material will also be shared in advance.



DEVOTION
COST ACTION CA18211
Perinatal Mental Health & Birth Related Trauma:
Maximising Best Practice & Optimal Outcomes



1. PROGRAMME

Trainers:

Prof Jonathan Turner is Principal Investigator, Immune Endocrine and Epigenetics Group Leader and Deputy Head Finance & Funding, Department of Infection and Immunity, Department of Infection and Immunity, Luxembourg Institute of Health.

Mentors have volunteered to support early career researchers/ participants on this programme.

Monday, 28th February 2022

Time in CET	Activity	Trainer
09:00-09:30	Registration and welcome	
09:30-10:30	Lecture: The language of epigenetics (P) DNA -> RNA -> Protein 3D DNA structure -> histones DNA Methylation	Prof Jonathan Turner
10:30-10:45	Break	
10:45-11:30	Lecture: Periods of epigenetic sensitivity; Epigenetic control of the stress response (P) Embryogenesis; Teenage years; Laboratory stressors; The Glucocorticoid Receptor (GR); GR methylation vs sequence variants	Prof Jonathan Turner
11:30-12:00	Consolidation – round table discussion	Mentors (Prof J Turner, Cyrielle Holuka, Prof Kerstin Uvnas Moberg)
12:00-13:30	Lunch	
13:30-14:30	Lecture: Epigenetic programming events round birth (R)	Prof Mechthild Gross
14:30-15:30	Lecture: Oxytocin as an antidote to stress (R)	Prof Kerstin Uvnas Moberg
15:30-15:45	Break	
15:45-16:45	Journal club	Mentors
16:45-17:00	Research talk: DNA methylation changes are influenced by birth route (P)	Ms Cyrielle Holuka
17:00 -17:30	Consolidation – round table discussion	



DEVOTION
COST ACTION CA18211
 Perinatal Mental Health & Birth Related Trauma:
 Maximising Best Practice & Optimal Outcomes



Tuesday, 1st March 2022

Objectives:

- Understand the principal types of epigenetic studies
- Understand the statistical principals behind epigenetic studies

Time in CET	Activity	Trainer
09:00-10:00	Lecture: Epigenetic study design (R)	Prof Carlo Schuengel
	Birth cohorts Longitudinal studies	
10:00-11:00	Lecture: Biological sampling for non-biologists (R)	Prof Olga Kafonova
	Birth cohorts Longitudinal studies	
11:00-11:15	Break	
11:15-12:00	Consolidation – Small group study design challenge	Mentors:
	During this period attendees will work in small groups on study design problems either from their own research lines or given by the trainers. The session will end with short 3-5 minutes presentations from each group	Prof Jonathan Turner (P) Cyrielle Holuka (P) Prof Olga Kafonova (R)
12:00-13:30	Lunch	
13:30-14:30	Lecture: Statistics for epigenetics (R)	Prof. Neville Calleja
14:30-15:30	Journal club	Mentors:
	During this period, attendees will work in small groups on interpreting and analysing published papers with a focus on the different study designs and the advantages / disadvantages of the authors' choice. At the end of the session there will be a short 3-5 minutes presentations from each group	Prof Jonathan Turner (P) Cyrielle Holuka (P) Prof Neville Calleja (R)
15:30-15:45	Break	
15:45-17:00	Lecture: Project Ice storm – Epigenetic of perinatal psychosocial stress (R)	Prof Lei Cao-Lei
17:00 -17:30	Consolidation – round table discussion	



DEVOTION
COST ACTION CA18211
Perinatal Mental Health & Birth Related Trauma:
Maximising Best Practice & Optimal Outcomes



Wednesday, 2nd March 2022

Objectives:

Understand epigenetics applied as clocks

Time in CET	Activity	Trainer
09:00-10:00	Lecture: Epigenetic ageing/clocks and early life (P)	Mme Cyrielle Holuka
10:00-11:00	Lecture: Epigenetic-genetic intertwined effects of early life pesticide exposure (R)	Prof Wim VandenBerghe
11:00-11:15	Break	
11:15-12:30	Journal club + Presentation from groups	Mentors:
	During this period, attendees will work in small groups on interpreting and analysing published papers with a focus on socioeconomic and environmental influences. At the end of the session there will be a short 3-5 minutes presentations from each group	Prof Jon Turner (P) Mme Cyrielle Holuka (P) Prof Wim VandenBerghe (R)
12:30-14:00	Lunch	
14:00-15:00	Consolidation – round table discussion, wrap-up	



DEVOTION
COST ACTION CA18211
Perinatal Mental Health & Birth Related Trauma:
Maximising Best Practice & Optimal Outcomes



2. Biographies of Trainers, Mentors & Guest Lecturers

Trainers:

Professor Jonathan Turner

Principal Investigator, Immune Endocrine Epigenetics Research Group; Deputy Head of DII (Funding and Finance) at Luxembourg Institute of Health as well as Principal Investigator and Deputy Director of Allergology Immunology and Inflammation

Ms Cyrielle Holuka is a PhD student in epigenetics at the at Luxembourg Institute of Health working under the supervision of Prof Jonathan Turner.

Mentors & Guest Lecturers:

Prof Neville Calleja has fifteen years of experience lecturing medical statistics, epidemiology and public health to all health care professionals, together with ethical and scientific review of projects at local and international level. He is also active at European level in the field of Health Information for both the European Commission and WHO (Europe), as chair of the European Health Information Initiative within WHO (Europe). Prior to this, he was the first chair of the Small Countries Health Information Network for WHO (Europe) and he is still an active member of the WHO Collaborating Centre for Health Systems and Policies in Small States within the Islands and Small States Institute within the University of Malta. Prof Calleja has been active on a number of collaborative research projects, particularly in the area of health information, funded by the EU Public Health Programme, and also the EU Research Framework Programmes. He has also been in receipt of EUROSTAT grants for development of statistical framework at national level.

Prof Carlo Schuengel is a Full Professor, Faculty of Behavioural and Movement Sciences, Clinical Child and Family Studies at Vrije University in Amsterdam, Netherlands. Prof Schuengel aims is to contribute insights into family relationships and the development of mental health and resilience, and into interventions that can support at risk parents and other caregivers in fostering high quality relationships with children. This goal is pursued by a combination of research on the Generations² longitudinal pregnancy cohort study, creation and synthesis of practice based and research based evidence, and intervention studies in partnership with intervention services and care organizations that support families, children, and people with disabilities. Attachment theory has been a major theoretical basis for this work since our program started in 2000.

Prof Lei Cao-Lei works at McGill University, Montréal, Canada and was a Postdoctoral Research Fellow under the supervision of Dr Suzanne King at the Douglas Hospital Research Centre, Psychosocial Research Division / McGill University, Department of Psychiatry. Having graduated from Shandong University of Technology in China, and worked as a Biology Teacher in middle school for years. Afterwards, she completed a Masters study in University of Henri Poincaré in France. Prof Cao-Lei's PhD study involved Molecular Biology research. As a jointly trained PhD student by Institute of Immunology, National

Health Laboratory, Public Research Centre in Luxembourg and Faculty of Immunology, Psychobiology, University of Trier in Germany, my PhD research direction was the transcriptional control of the human glucocorticoid receptor (GR): identification and analysis of alternative promoter regions, majoring in the gene variation and epigenetic effects on the human GR expression. At present in Douglas Mental Health University Institute, Prof Cao-Lei is performing a series of researches concerning the effect of prenatal maternal stress (PNMS) derived from natural disasters such as ice storm and flood. I am focusing on the genetic and epigenetic factors, particularly on the interaction between prenatal maternal stress and its influence on the development from infancy to adolescent.

Prof Wim Vanden Berghe works at the Dept of Biomedical Sciences, University of Antwerp, Belgium. He leads a research group on Protein Biochemistry, Proteome & Epigenome Signaling Mechanisms (PPES). His specialist expertise is in Pyrosequencing is a fast, simple and quantitative method for analysis of CpG methylation, mutational analysis or SNP analysis at different sites in a simple assay, without using restriction sites, large amounts of DNA, dyes and separation steps.

Prof Kerstin Uvnäs Moberg is a physician and professor of physiology with a research focus on the healing aspects of oxytocin. Her vision is to help creating healthier and happier women by expanding the knowledge about female physiology and by creating medical interventions based on oxytocin. The wish to understand the biology of women emerged when she had children herself. At that time, she left a promising research career within the field of gastrointestinal physiology in order to study the positive and health promoting effects of oxytocin. Kerstin Uvnäs Moberg found among other things that oxytocin reduces pain and anxiety, decreases blood pressure and reduces the levels of stress hormones in both sexes. She also found that the speed, by which wounds and other types of physical damage heal, increases and that atrophic (thin) mucosal membranes become rejuvenated. The latter research findings form the basis for patents and clinical studies with the aim to create a pharmaceutical drug for relief of menopausal symptoms.

Dr. Mechthild M. Gross is a trained nurse midwife and obtained a Masters degree in Psychology from the University of Constance. After her PhD in 2000 (Bremen University), she joined the Hanover Medical School, in Hanover Germany, as a research fellow and a consultant midwife. Since then she has set up a Midwifery Research and Education Unit and have published widely in the area of midwifery. She also has a long-standing interest in the academic training of midwives. Following an ICM workshop on midwifery research in Tuebingen, Germany in 1989, she founded and have chaired the annual research conferences for German speaking midwives for 18 years. Currently she still work as a practising midwife in a tertiary hospital, devoting half of my time to research. Additionally, I am involved in teaching medical students, and preparing for midwife led models of care. Since September 2009, she is the Head of the European Masters of Science in Midwifery at the Hanover Medical School. In 2010, her postdoctoral thesis (*Venia legendi*) was accepted by the Hanover Medical School.



DEVOTION
COST ACTION CA18211
Perinatal Mental Health & Birth Related Trauma:
Maximising Best Practice & Optimal Outcomes

 **cost** =
EUROPEAN COOPERATION ACTION
IN SCIENCE & TECHNOLOGY .OGY



3. International Training School Committee Members

Sylvia Murphy Tighe (Chair International Training School) sylvia.murphy@ul.ie

Alison Morison (Vice-Chair International Training School) Alison.morison@stud.mh-hannover.de

Susan Ayres susan.ayres1@city.ac.uk

Jonathan Turner Jonathan.turner@LIH.LU

Sandra Morano Sandra.morano@hsanmaartino.it

Rosita Gabbianelli rosita.gabbianelli@unicam.it

Olga Gouni info@cosmsanelixis.gr

Carlo Schuengel c.schuengel@vu.nl

Susan Garthus Niegel susanniegel@gmail.com

Eleni Hadjigeorgiou eleni.hadjigeorgiou@cut.ac.cy

Location: Catholic University of Croatia, Ilica 242, Zagreb, Croatia
Entrance to the old yellow building is from the street Domobranska
3rd floor, Room Bl. Aloysius card. Stepinac Hall

